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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,344	01/02/2002	Bin Zhang	10013656 -1	6914

7590 10/16/2006  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

ERB, NATHAN

ART UNIT	PAPER NUMBER
3628	

DATE MAILED: 10/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/038,344	Applicant(s) ZHANG ET AL.	
	Examiner Nathan Erb	Art Unit 3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-20 is/are allowed.
- 6) ☒ Claim(s) 1, 5, 8, 9 and 11-15 is/are rejected.
- 7) ☒ Claim(s) 2-4, 6, 7 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Applicants' response to Office action was received on July 28, 2006.
3. Regarding the rejection of claims 8-10 under 35 U.S.C. 112, first paragraph, applicants' arguments have been found to be persuasive. Therefore, the rejection is hereby withdrawn.
4. Regarding the rejection of claim 1 under 35 U.S.C. 112, second paragraph, and in light of applicants' amendment of the claim, applicants' arguments have been found to be persuasive. Therefore, the rejection is hereby withdrawn. However, the amendment has necessitated a new rejection of claim 1 under 35 U.S.C. 112, second paragraph. See the rejection below for details.
5. Regarding the rejection of claim 5 under 35 U.S.C. 112, second paragraph, applicants' arguments have been found to be persuasive. Therefore, the rejection is hereby withdrawn.
6. Regarding the rejection of claims 6, 12, 14, 15, and 18 under 35 U.S.C. 112, second paragraph, applicants' arguments have been found to be persuasive. Therefore, the rejection is hereby withdrawn.
7. Regarding the rejection of claims 7 and 13 under 35 U.S.C. 112, second paragraph, applicants' arguments have been found to be persuasive. Therefore, the rejection is hereby withdrawn.
8. Regarding the rejection of claims 8 and 10 under 35 U.S.C. 112, second paragraph, applicants' arguments have been found to be persuasive. Therefore, the rejection is hereby withdrawn.

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9. Regarding the rejection of claim 9 under 35 U.S.C. 112, second paragraph, applicants' arguments have been found to be persuasive. Therefore, the rejection is hereby withdrawn.

10. Regarding the rejection of claims 11, 16, and 17 under 35 U.S.C. 112, second paragraph, applicants' arguments have been found to be persuasive. Therefore, the rejection is hereby withdrawn.

11. Regarding the rejection of claim 19 under 35 U.S.C. 112, second paragraph, applicants' arguments have been found to be persuasive. Therefore, the rejection is hereby withdrawn.

12. Regarding the rejection of claim 20 under 35 U.S.C. 112, second paragraph, applicants' arguments have been found to be persuasive. Therefore, the rejection is hereby withdrawn.

13. Regarding the rejection of claim 10 under 35 U.S.C. 101, in light of applicants' amendment of the claim, applicants' arguments have been found to be persuasive. Therefore, the rejection is hereby withdrawn.

14. Regarding applicants' response to the 35 U.S.C. 101 rejection for claims 1, 5, 8-9, and 11-15, the rejection is not referring to a requirement that the claims be limited by language within the technological arts. Rather, the rejection is explaining that the claim involving a mathematical algorithm does not produce a tangible result, as required by the case law cited in the rejection. Applicants also argue that the claims are not directed toward laws of nature, natural phenomena, and abstract ideas. However, the Office action notes that the claims involve a mathematical algorithm, and a mathematical algorithm which does not produce a useful, concrete, and tangible result is an abstract idea. Please refer to the full rejection under the 35 U.S.C. 101 rejection section below for further explanation.

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Regarding the rejection of claims 1, 5, 8-9, and 11-15, applicants further argue that prices are useful and tangible results. However, this is not true, as without the price being output to a user of the method in perceivable form, the method does not have a tangible result.

In order to overcome the rejection for claims 1, 5, 8-9, and 11-15 under 35 U.S.C. 101, Examiner recommends the following amendments:

To claim 1, add the final step of: outputting said price that maximizes revenue in a tangible form which is a communication perceivable to a user of said method.

To claim 5, add the final step of: outputting said prices that maximize revenue in a tangible form which is a communication perceivable to a user of said method.

To claim 8, add the final step of: outputting said prices that maximize revenue in a tangible form which is a communication perceivable to a user of said method.

To claim 11, add the final step of: outputting said prices that maximize revenue in a tangible form which is a communication perceivable to a user of said method.

***Claim Rejections - 35 USC § 112***

15. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The seventh line of claim 1 contains the phrases “a first reference line” and “a second reference line.” The fourth and fifth lines of claim 1 also contain the phrases “a first reference line” and “a second reference line.” Due to the repeat use of the indefinite article “a,” it is not possible to determine if the same or a different “first reference line” and “second reference line” are being referred to.

***Claim Rejections - 35 USC § 101***

16. Claims 1, 5, and 8-9, and 11-15 are rejected under 35 U.S.C. 101 because the claimed inventions are directed to non-statutory subject matter. In order to be patentable, an invention involving a mathematical algorithm must produce a useful, concrete, and tangible result. State Street Bank & Trust Co. v. Signature Financial Group Inc., 47 USPQ2d 1596, 1600-1601 (Fed. Cir. 1998). The inventions of these claims do not produce tangible results, for example, some sort of perceivable communication that transmits its calculated price to a user. This could be a step producing a chart, printout, or computer monitor display; however, there are no such outputs in these claims. Therefore, these claims do not produce tangible results and are not patentable.

***Allowable Subject Matter***

17. Claims 16-20 are allowed.

18. Claims 2-4, 6-7, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

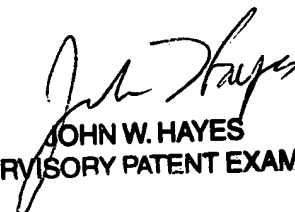
20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Erb whose telephone number is (571) 272-7606. The examiner can normally be reached on Mondays through Fridays, 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on (571) 272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nathan Erb  
Examiner  
Art Unit 3628

nhe

  
JOHN W. HAYES  
SUPERVISORY PATENT EXAMINER